

## NOTES ON TEXAS ORCHIDS (ORCHIDACEAE)

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### ABSTRACT

In the past ten years, 1997-2007, there have been several taxonomic and nomenclatural changes, additional taxa, rediscovery of species presumed extirpated, and clarification of cryptic species regarding the Orchidaceae in Texas. These are all reviewed here.

### RESUMEN

En los pasados diez años, 1997–2007, ha habido varios cambios taxonómicos y nomenclaturales, taxa adicionales, redescubrimiento de especies presuntamente desaparecidas, y clarificación de especies crípticas de Orchidaceae en Texas. Todo ello se revisa aquí.

In preparation for the publication of *Field Guide to the Wild Orchids of Texas* in February 2008 (University Press of Florida) it was essential to review the known knowledge of the Orchidaceae of Texas. Additions to that body of work include clarification and update of older material as well as several new discoveries and recently published taxa.

The review of literature prior to the publication of Liggio and Liggio (1999) revealed many changes in taxonomy and nomenclature, most of which appeared in the Liggios' work. In the years since the Liggios' publication significant new discoveries, publications, and herbarium additions have been made to the orchid flora of Texas. Some of the more significant results of this current research include the publication of several new species, based upon older names, for species occurring in Texas and the publication of one new variety. Two new color forms with types from Texas were also published for a total of ten new taxa to be added to the orchid flora of Texas.

Two recently-described species are now known to be present in Texas, but not replacing the established species often confused with them.

**Spiranthes eatonii** P.M. Brown (**Fig. 1**), Eaton's ladies'-tresses [*S. floridana* (Wherry) Cory emend P.M. Brown, *S. lacera* Raf. var. *gracilis* (Bigelow) Luer] (Brown 1999).

**Spiranthes sylvatica** P.M. Brown, woodland ladies'-tresses [*S. praecox*] (Brown 2001a)

Two varieties are new to Texas:

**Triphora trianthophora** var. **texensis** P.M. Brown & R. Pike (**Fig. 2**), Texas three birds orchis was described as a new taxon, endemic to Texas and based upon discovery in 2005 by Pike. Plants are currently known from a very small area in Houston County (Brown & Pike 2006).

**Platanthera flava** (L.) Lindl.) var. **herbiola** (R. Brown) Luer (**Fig. 3**), first found by Sandi Pelchat in 2002 in Sabine County was documented as a new variety for Texas (Pelchat, pers. comm.).

Two species found in Texas have recently been described and are often confused with previously described species that do not occur in the United States:

**Deiregyne confusa** Garay, (**Fig. 4**) rimrock ladies'-tresses [misapplied names: *Spiranthes durangensis* Ames & Schweinf.; *D. durangensis* (Ames & Schweinf.) Garay] (Garay 1980).

**Schiedeella arizonica** P.M. Brown, Indian braids; Arizona red-spot [misapplied names: *Spiranthes parasitica* A. Rich. & Galeotti, *S. fauci-sanguinea* Dod; *Schiedeella parasitica* (A. Rich. & Galeotti) Schlechter, *S. fauci-sanguinea* (Dod) Burns-Balogh] (Brown & Coleman 2000).

Two taxa previously treated at the varietal level are now recognized at the species level:

**Platanthera conspicua** (Nash) P.M. Brown, southern white fringed orchis [synonym: *Platanthera blephariglottis*



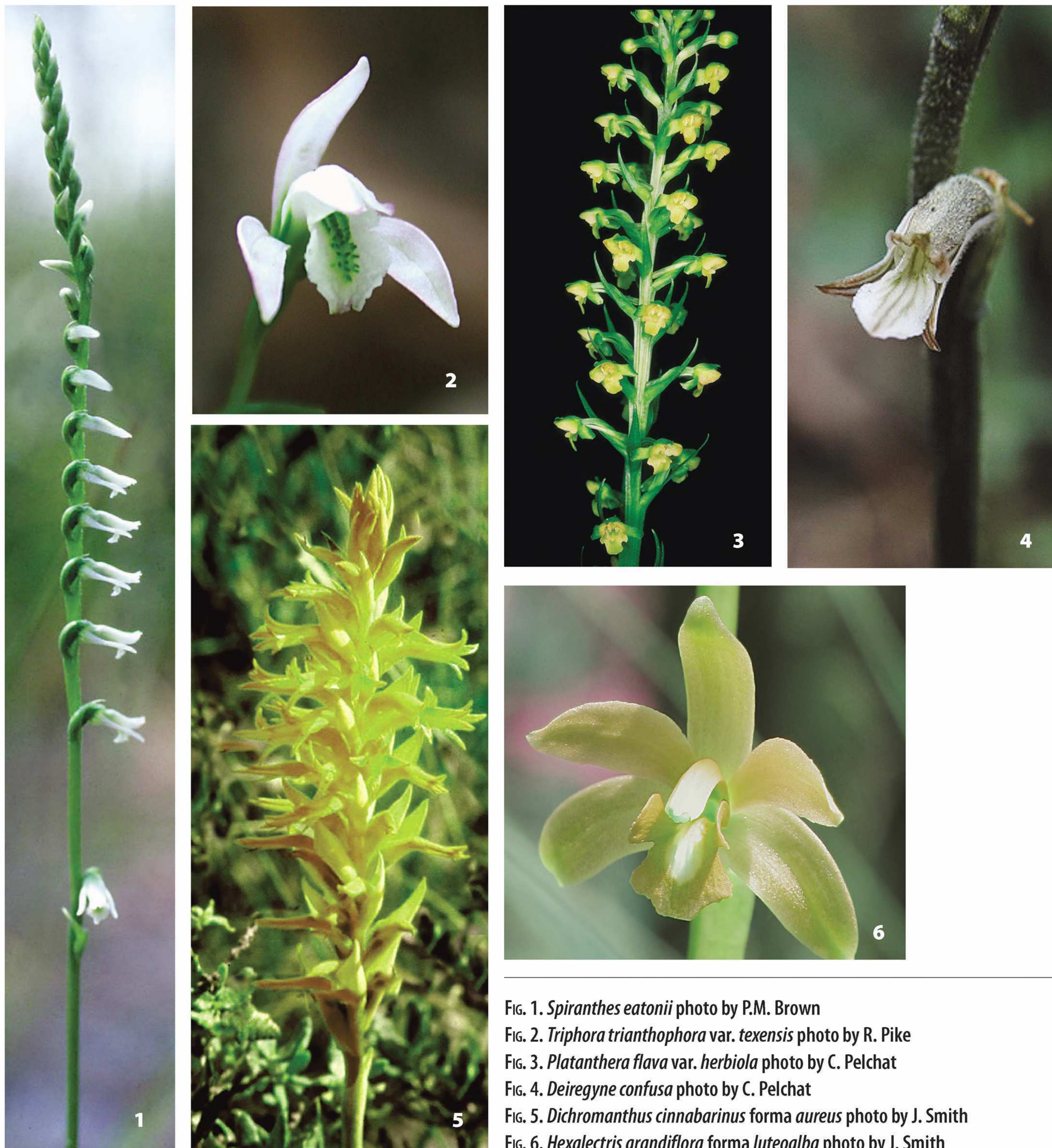


FIG. 1. *Spiranthes eatonii* photo by P.M. Brown  
 FIG. 2. *Triphora trianthophora* var. *texensis* photo by R. Pike  
 FIG. 3. *Platanthera flava* var. *herbiola* photo by C. Pelchat  
 FIG. 4. *Deiregyne confusa* photo by C. Pelchat  
 FIG. 5. *Dichromanthus cinnabarinus* forma *aureus* photo by J. Smith  
 FIG. 6. *Hexalectris grandiflora* forma *luteoalba* photo by J. Smith

var. *conspicua* (Nash) Luer] (Brown 2002).

***Spiranthes floridana*** Wherry emend P.M. Brown, Florida ladies'-tresses [synonyms: *Spiranthes brevilabris* var. *floridana* (Wherry) Correll; *S. gracilis* var. *floridana* (Wherry) Luer ] (Brown 2001).

Two new color forms were described from Texas, both from the Trans-Pecos (Brown 2006):

***Dichromanthus cinnabarinus* forma *aureus*** P.M. Brown (**Fig. 5**), a yellow form of the otherwise typically scarlet-colored flowers; similar coloration variants are found in the related genus *Sacoila*: *S. lanceolata* (Aubl.) Garay var. *lanceolata* forma *folsomii* P.M. Brown; *S. lanceolata* (Aubl.) Garay var. *paludicola* (Luer) Sauleda, Wunderlin & Hansen forma *aurea* P.M. Brown (Brown 1999a; 2001).

***Hexalectris grandiflora* forma *luteoalba*** P.M. Brown (**Fig. 6**), an unusual yellowish-white color form; similar variants are found in other species of *Hexalectris*: *H. spicata* var. *spicata* forma *lutea* P.M. Brown, *H. spicata* var. *spicata* forma *wilderi* P.M. Brown (Brown 2004); *H. warnockii*



forma *flavida* Catling (Catling 2004).

In reviewing some of the early literature and attempting to coordinate the earlier names with current nomenclature several unusual records were noted in Cory and Parks (1937) and/or Correll (1940; 1947).

**Liparis loeselii** (L.) Rich.: this is the only reference for this species in the Texas literature although it appears in an informal plant list for Caddo National Wildlife Refuge, Louisiana, but without any substantiation; the refuge straddles the Texas-Louisiana border.

**Microstylis monophyllos** (L.) Lindl.: confusing use of a synonym and misapplied name intending to use *Malaxis unifolia* Michx..

**Physurus querceticola** Lindl. (syn. *Platythelys querceticola* (Lindl.) Garay) was reported by Ames (1924), treated by Correll (1944), and noted by Liggio and Liggio (1999). Plants of this species still have not been found in Texas.

**Spiranthes ochroleuca** (Rydb.) Rydb.: specimens were most likely *S. magnicamporum* Sheviak (not described at that time) or a prairie race of *S. cernua* (L.) Rich., both of which may have creamy colored lips typical of *S. ochroleuca*.

**Spiranthes reverchonii** (Small) Cory is one of several described taxa that fall within the parameters of the highly variable *S. vernalis* Engelm. & A. Gray (Ames 1924).

**Spiranthes minutiflora** A. Rich. & Galeotti presents the most intriguing report of all. By today's nomenclature this would be *Microthelys minutiflora* (A. Rich. & Galeotti) Garay (Garay 1980; Szlachetko et al. 2005), a small, inconspicuous spiranthoid species known from northern Mexico. Cory and Parks (1937) noted it from the Trans-Pecos region presumably based upon the information in Palmer (1880). The Palmer specimen was listed as one of several that were missing from a shipment sent by Palmer<sup>1</sup> to Dr. Asa Gray at the Gray Herbarium at Harvard University. Without a specimen for positive identification or more complete details other than 'mountains of West Texas, 1880' the inclusion of this species for Texas was tenuous at best. But, in 2005 *Microthelys rubrocallosa* (B.L. Rob. & Greenm.) Garay, a similar and closely related species from northern Mexico, was found for the first time in the United States in southern New Mexico (Coleman & Baker 2006). The two species bear a superficial resemblance to each other and it is possible that the Texas report could even have been *M. rubrocallosa*, depending on information available to Palmer at the time. Although the lip shape is significantly different in the two species, they both possess the characteristic red underside of the lip and tiny, barely-opened whitish flowers.

A notable error in Cory and Parks (1937) was in the listing of *Blephariglottis tricholepis* (Torr.) Nash, which apparently is *Blepharoneuron tricholepis* (Torr.) Nash in the *Poaceae*, a grass known primarily from the Trans-Pecos region.

The most significant rediscovery of a species that had not been seen since its original collection in 1931 is that of *Deiregyne confusa* Garay, the rimrock ladies'-tresses, found in 2004 in essentially in the same area as the earlier collection by Steyermark in the Chisos Mountains (USGS 2004; Ambs 2006; Coleman et al. 2006).

**Spiranthes brevilabris** Lindl., one of the rarest orchids in North America, was discovered in April 2007 in the Blackland Prairie vegetational region, documenting a new county, Walker, and a new geophysical region for the species in Texas (Keith 2007).

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<sup>1</sup> Edward Palmer 1831–1911; Texas collections were primarily in the Trans-Pecos.



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